

Title (en)

REDUCTION GEAR FOR A STARTER-GENERATOR OF AN INTERNAL COMBUSTION ENGINE

Title (de)

REDUKTIONSGETRIEBE FÜR EINEN STARTER-GENERATOR EINER VERBRENNUNGSKRAFTMASCHINE

Title (fr)

ENGRENAGE REDUCTEUR POUR LE DEMARREUR-GENERATEUR D'UN MOTEUR A COMBUSTION INTERNE

Publication

EP 1282772 B1 20060412 (DE)

Application

EP 01933454 A 20010517

Priority

- AT 0100153 W 20010517
- AT 3612000 U 20000517

Abstract (en)

[origin: WO0188369A1] The invention relates to a reduction gear for a starter-generator of an internal combustion engine, said starter-generator being functionally linked with the crankshaft (2) via a belt drive (6). A planetary gear is mounted in the force-transmitting path between the crankshaft (2) and a first belt pulley (6) that is coaxial to the crankshaft. The aim of the invention is to create a reduction gear which provides the gear ratio required for the starting mode and which can be switched in such a manner that it can be operated in any mode of operation. To this end, the reduction gear (8) is a planetary stage that consists of a housing (10), an internal geared wheel (11), a sun wheel (14), a cage (15) and a planetary ring (16) with internal (18) and external (17) toothings. The internal geared wheel intermeshes with the outer toothings (17) of the planetary ring (16) and is functionally linked with the crankshaft (2) of the internal combustion engine. The sun wheel (14) intermeshes with the internal toothings (18) of the planetary ring (16) and is stationarily linked with the housing (10) via a first coupling (19). The cage (15) is provided with eccentric bearings (42, 43) for the planetary ring (16) and is stationarily linked with the first belt pulley (7). The cage can be stationarily linked with one of the members (11) of the planetary stage via a second coupling (20).

IPC 8 full level

F02N 11/04 (2006.01); **F02N 15/02** (2006.01); **F02N 11/00** (2006.01); **F02N 15/04** (2006.01); **F16H 1/28** (2006.01); **F16H 37/02** (2006.01);
F16H 3/54 (2006.01)

CPC (source: EP US)

F02N 11/04 (2013.01 - EP US); **F02N 15/006** (2013.01 - EP US); **F02N 15/046** (2013.01 - EP US); **F16H 3/54** (2013.01 - EP US)

Cited by

DE102012101044A1; DE102010061238A1; DE102006060889A1; DE102010060788B4; DE102010061238B4; DE102011051253A1;
DE102011051252A1; DE102010060788A1; US8317652B2; EP2481955A1; DE102011010093A1; US8882633B2; EP2481954A1;
DE102011010086A1; US8517889B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

WO 0188369 A1 20011122; AT 4792 U1 20011126; AT E323227 T1 20060415; CA 2397181 A1 20011122; CA 2397181 C 20100511;
DE 50109500 D1 20060524; EP 1282772 A1 20030212; EP 1282772 B1 20060412; JP 2003533639 A 20031111; JP 4636221 B2 20110223;
US 2004038769 A1 20040226; US 6832970 B2 20041221

DOCDB simple family (application)

AT 0100153 W 20010517; AT 01933454 T 20010517; AT 3612000 U 20000517; CA 2397181 A 20010517; DE 50109500 T 20010517;
EP 01933454 A 20010517; JP 2001584735 A 20010517; US 27663002 A 20021118